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Postcoital Hemorrhage of a Recurrent Seminal Vesicle Cyst Requiring Embolization☆

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ABSTRACT

Herein is a case of a 23-year-old man with recurrence of a seminal vesicle cyst after percutaneous drainage and laparoscopic excision complicated by hemorrhage requiring embolization. He presented to the emergency department for pain after ejaculation. Computed tomographic scan of his pelvis revealed extravasation of contrast near his cyst and pelvic fluid collection suspicious for a hematoma. The patient had steadily decreasing hemoglobin and hematocrit levels. An interventional radiologist performed an embolization of the left seminal vesicle cystic arteries. Hemoglobin and hematocrit values improved and he was discharged. Hemorrhage resolved with embolization procedure and pain dissipated over the course of follow up care.

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Introduction

Seminal vesicle cysts are extremely rare with a reported incidence of about 0.005%.[1] The prevailing theory is that these cysts form as a result of abnormal embryologic development of the Mullerian ducts. In normal development, the Mullerian ducts derive the hemitrigone, bladder neck, proximal urethra, seminal vesicles, vas deferens, efferent ducts, epididymis, paradidymis, and appendix epididymis under the influence of testosterone and anti-Mullerian hormone.[2] Disruption in Mullerian duct development can lead to predictable associations. Zinner syndrome is a rare but illustrative example of abnormal Mullerian duct development with fewer than 120 cases described in the world literature and includes a triad of renal agenesis or dysgenesis, an ipsilateral seminal vesicle cyst, and ejaculatory duct obstruction.[3] Although often asymptomatic, it can present with infertility in the form of low ejaculate volume and either azoospermia or oligospermia. If the seminal vesicle cyst increases in size >5 cm, the patient may complain of pelvic or perineal pain, dysuria, hematospermia, painful ejaculation, and chronic recurrent epididymitis or prostatitis. Cysts sized >12 mm are termed giant cysts and are more likely to cause symptomatic bladder and colonic obstruction.[4]

In general, for most patients with seminal vesicle cysts, even those complicated by hemorrhage, conservative management with observation is appropriate. In those rare circumstances when symptomatic cysts require intervention, the options include transrectal needle aspiration, cystoscopic aspiration or unroofing of the ejaculatory duct, and even open surgery for excision.[3] However,

Figure 1. Axial CT scan demonstrating active extravasation within the pelvis suggesting hemorrhagic seminal vesicle cyst.

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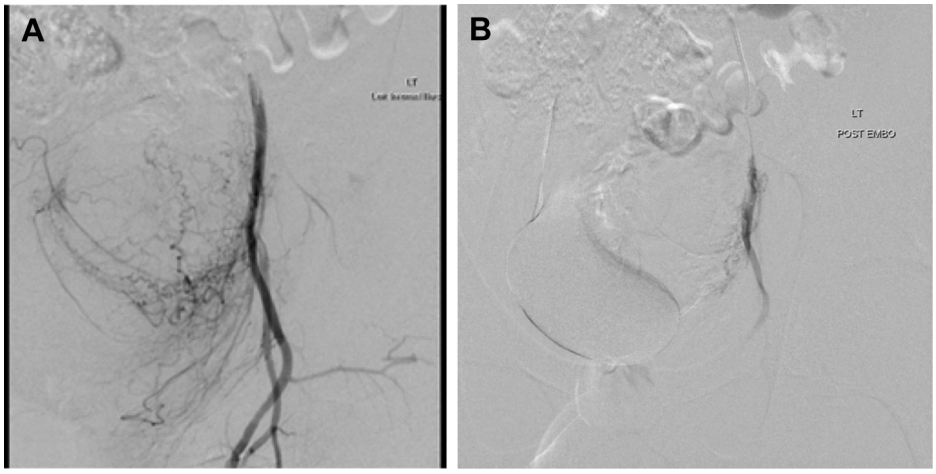

Figure 2. **(A)** Pre and **(B)** post embolization floroscopic imaging depicting successful embolization of hemorrhagic cystic vesicle arteries.

we describe a case which supports that during hemorrhagic events, embolization may be the safer, more effective, and less invasive treatment modality.

Case presentation

A 23-year-old man presented to the emergency department at our institution after suffering from 3 hours of acute onset and severe constant perineal pain shortly after ejaculation. This patient has Zinner syndrome with the absence of the left kidney and recurrent seminal vesicle cysts. He has been treated in the past for enlarged cysts with a percutaneous drainage of 1.2 L fluid in May 2007, followed by a seminal vesicle cyst laparoscopic decortication in December 2009. He had been stable and followed with computed tomographic (CT) scans of the pelvis over time.

On presentation to the emergency department, his initial evaluation was significant only for discomfort associated with sharp 8/10 lower abdominal and perineal pain. Vital signs were stable and within normal limits, his physical examination was benign and urinalysis, complete blood count, and basic metabolic panel were all within normal limits. This prompted a CT scan of his pelvis with intravenous contrast, which revealed a recurrent left seminal vesicle cyst as well as the development of a new large extraperitoneal fluid collection measuring 11.6 cm $\times$ 5.0 cm, suspicious for a hematoma. This can be visualized in Figure 1, with an arrow depicting contrast extravasation suggestive of active hemorrhage from a cystic vessel. Despite normal stable vital signs, adequate pain control, and normal laboratory work, he was admitted for observation with serial laboratory draws. By hospital day 2, he was still doing well but his hemoglobin and hematocrit levels decreased steadily. With CT evidence of active bleeding in the setting of persistently decreasing blood counts, interventional radiology department was consulted for definitive management of his hemorrhagic seminal vesicle cyst. The interventional radiologist performed a percutaneous embolization through a left internal iliac angiogram using Gelfoam slurry and 500-700 μm Embospheres. Digital subtraction angiography was performed, which demonstrated ectatic vessels outlining the enlarged left seminal vesicle as demonstrated in Figure 2A. The inferior seminal vesicle artery followed by the left seminal vesicle artery were isolated with subsequent placement of Gelfoam and Embospheres. Nonvisualization of contributory vessels to the left seminal vesicle was appreciated after Gelfoam embolization and can be seen in Figure 2B, suggesting successful embolization.

The patient was kept overnight for observation and reassessment of complete blood counts. By postoperative day 1, he was asymptomatic with increasing hemoglobin and hematocrit values and was discharged in good condition with routine follow-up. The patient at 1-week follow-up described difficulty voiding and defecating, which was attributed to mass effect on the colon and bladder from the hematoma. Despite these symptoms, the patient's blood counts remained stable. The patient remained stable hematologically without further hemorrhagic events. The patient had follow-up CT scans 1 year and 2 years after the procedure that demonstrated regression in size.

Conclusion

In conclusion, seminal vesicle cysts are a very rare phenomenon, and clinically significant hemorrhagic seminal vesicle cysts are even less common. We describe an effective minimally invasive approach using cystic vessel embolization for treatment of hemorrhagic seminal vesicle cysts. However, follow-up over a longer period of time is necessary. More reports would be necessary to verify cystic artery embolization as a safe, effective, and minimally invasive method of treatment.

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